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10/776,460	02/10/2004	Samcer Kanagala	HAMMP006	3496
21912 7590 07/30/2007 VAN PELT, YI & JAMES LLP 10050 N. FOOTHILL BLVD #200 CUPERTINO, CA 95014			EXAMINER LAI, ANDREW	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/776,460

Applicant(s)

KANAGALA ET AL.

Examiner

Andrew Lai

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 3/18/2005.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 8, 9, 13, 14, 21, 22, 27 29, 31 and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 8-9/21-22 all recite the limitation of "***the protecting egress/ingress link***". There is insufficient antecedent basis for said limitation. It appears that said recitation should be "***a protecting egress/ingress link***" instead. Correction is required.

Claim 13, appearing to be drawn to **ingress traffic** to a service module, recites "***connecting traffic from a service module to a first physical module having a link layer framer that is connected to a protected ingress link, connecting the traffic through the first physical module through a pooling switch to a second physical module that is connected to an alternate ingress link***".

It is unclear how the **ingress** traffic is handled as claimed above.

A. Traffic **from** service module is connected **to** first physical module that **receives ingress** traffic. Question arises **where** said **ingress** traffic received by first module would go as well as **where** said traffic **from service module** would go? They appear to be colliding with each other should the claimed features be intended.

B. Second part of the claim appears to be suggesting that said ingress traffic from first module is directed to the second module. However, second module is also **receiving ingress** traffic. Question arises then **where** said **ingress** traffic from **first** module as well as said **ingress** traffic from **second** module eventually would go? The two **ingress** traffic flows appear to be colliding with each other should the claimed features be intended.

In light of the Applicant's disclosure (especially fig. 2, the dashed ingress traffic paths), however, the claim would be meaningful and enabling if it reads as follows:

Claim 13, A method of protecting a protected link including:

connecting traffic ~~from~~ to a service module ~~to~~ from a first physical module having a link layer framer that is connected to a protected ingress link,

connecting the traffic through ~~the first~~ a second physical module that is connected to an alternate ingress link through a pooling switch to ~~a second~~ the first physical module ~~that is connected to an alternate ingress link~~".

Therefore, subsequent Office Action will be based on suggested language hereinabove.

Claims 27 and 31, both appearing also to be drawn to **ingress traffic** to a service module, have similar problems. Therefore, subsequent Office Action for these claims will be based on language suggested hereinbelow.

Claim 27, A method of protecting a protected link including:

*connecting traffic ~~from~~ to a service module ~~to~~ from a first pooling switch,
connecting the first pooling switch to a first physical module having a link
layer framer that is connected to ~~the~~ a protected ingress link,*

*connecting the traffic through ~~the first~~ a second physical module that is
connected to an alternate ingress link through a second pooling switch to a
~~second~~ the first physical module ~~that is connected to an alternate ingress link~~*

Claim 31, A method of protecting a protected link including:

*connecting traffic ~~from~~ to a service module ~~to~~ from a first pooling switch,
connecting the traffic through ~~the first~~ a second physical module that is
connected to a protected ingress link through a second pooling switch to a
~~second~~ the first physical module ~~that is connected to the protected ingress link,~~*

*connecting the traffic through ~~the first~~ a third physical module that is
connected to an alternate ingress link through the second pooling switch to a
~~third~~ the first physical module ~~that is connected to an alternate ingress link~~*

Claim 14, depending from claim 13, recites "**wherein the service module**
decides from information within the input traffic stream where to output the traffic
stream". There appear to have several problems.

Claimed limitations above appears come from a teaching in the Specification on
page 4 last paragraph wherein it states "*The service module decides from information
within the input traffic stream where to output the traffic stream and instructs the pooling*

switch to make the appropriate connections”, referring to fig. 1 wherein “pooling switch 110” is shown. It should be noted that:

A. If said description refers to egress links 172 and 174 (solid data paths), it is unclear what the ***input traffic*** therein refers to because in this case the ***service module 100*** is simply ***outputting a traffic*** stream to both egress links. Therefore, it does not appear to have an ***input traffic*** stream upon which to *decide where to output the traffic stream*. Additionally, the claimed feature in claim 14 is within the limitation of claim 13, which is ***drawn to receiving a traffic stream*** (dashed data paths in fig. 1).

B. With the context of ***receiving traffic stream paths*** (dashed data paths in fig. 1 coming from ingress links 160 and 162), on the other hand, the ***service module 100*** in fig. 1 is the ***destination*** of the received traffic. Then when the received traffic ***reaches the service module***, said traffic stream has ***already passed the pooling switch 110***. Therefore, it is unclear how the ***service module*** can *“decides from information within the ***input traffic*** stream where to output the traffic stream”* when it in fact receives input traffic ***later than*** the pooling switch, which is responsible for actually routing *output traffic*.

The claim language of claim 14, in view of claim 13, is unclear and indistinct to such an extent that it is impossible to search for prior art. However, an absence of prior art should not be construed as indicating allowable subject matter.

Claims 29 and 32 both recite the limitation of “***the third physical module does not include a link interface module***”. This limitation appears to ***contradict*** with claims 28 and 31 thereupon claims 29 and 32 depend. Claims 29/30 recite “***a third physical***

module that is connected to an alternate **egress/ingress link**". It is unclear how said third physical module "does **not** include a **link interface module**" while it "is connected to an alternate **egress/ingress link**".

Relevant teaching appear to be in the Specification page 14 first paragraph, in reference to fig. 6, wherein lines 6-7 states "The physical module 630 has no link interface module". However, said physical module 630 is clearly equivalent to **the first physical module** set forth in claims 28 and 31 **instead of the third physical module**. Herebelow is a mapping of physical module 630 in fig. 6 to claims 28 and 31, starting from the service module:

- "service module [fig. 6 item 600]"
- "first pooling switch [fig. 6 item 610]"
- "first physical module [fig. 6 item **630**]"
- "second pooling switch [fig. 6 item 612]"
- branching off to "second physical module [fig. 6 item 682]" and "third physical module [fig. 6 item 680]".

Therefore, according to above analysis, claims 29 and 32 should read "**the first physical module** does not include a link interface module" in order for them to be consistent with the Specification and not contradicting claims 28 and 31. Subsequent Office Action will be based on said reading.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-7, 10-20, 23-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sutoh et al (US 2003/0,165,115, Sutoh hereinafter) in view of Simons et al (US 6,332,198, Simons hereinafter)

• **Regarding independent claims 1, 13, 26, 27, 28 and 31**

Sutoh discloses "a hitless switching system includes a sending apparatus and a receiving apparatus" (Abstract lines -2) comprising the following features.

Claims 1, 13, 26, 27, 28 and 31, *a method of protecting a protected link* (see "according to this invention, for example, a protection transmission line transmitting second signal can be commonly used by a plurality of working transmission lines (transmitting first signal)" recited [0046] lines 1-4, wherein "protection transmission line" is "between the second sending interface and the second receiving interface" recited [0125] lines 1-3 and "working transmission line" is "between the first sending interface and the first receiving interface" recited [0125] lines 4-6) *including...*

Claim 1, *connecting traffic from a service module* (fig. 7 "client interface 590" in conjunction with "distributing part", "SM_e" hereinafter) *to a first physical module* (fig. 7 top half second [downward direction] "branch part", "PM1_e" hereinafter, right to and

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receiving traffic from said "SM_e", and see "signals are branched by the branch part" recited [0130] lines 7-8) *that is connected to a protected egress link* (fig. 7 "sending interface 530" outputting egress traffic from "PM1_e"),

connecting the traffic through the first physical module (refer to fig. 7 and see traffic out of said "PM1_e") *through a pooling switch* (fig. 7 "multiplexing part 520", "PS_e" hereinafter, right to and receiving traffic from "PM1_e") *to a second physical module* (fig. 7 "sending interface 540", "PM2_e" hereinafter, right to and receiving traffic from "PS_e") *that is connected to an alternate egress link* (fig. 7 egress link out of "PM2_e").

Claim 13, *connecting traffic to a service module* (fig. 7 "client interface 595" in conjunction with "restoration part", "SM_i" hereinafter) *from a first physical module* (fig. 7 bottom half last [downward direction] "selector", "PM1_i" hereinafter, left to and sending traffic to said "SM_i", and see "selectors each of which selects one signal from a plurality of signals" recited Abstract lines 10-11) *that is connected to a protected ingress link* (fig. 7 "receiving interface 550" inputting ingress traffic to "PM1_i"),

connecting the traffic through a second physical module (fig. 7 bottom half "receiving interface 560", "PM2_i" hereinafter, left to and sending through traffic to "PM1_i") *that is connected to an alternate ingress link* (fig. 7 ingress link to said "PM2_i") *through a pooling switch* (fig. 7 "demultiplexing part 580", "PS2_i" hereinafter, right to and receiving through traffic from said "PM2_i") *to the first physical module* (fig. 7 showing said "PS2_i" passing traffic to said "PM1_i").

Claim 26, *connecting traffic from a service module* (fig. 7 “client interface 590”, “SM_e” hereinafter) *to a first pooling switch* (fig. 7 top half “distributing part”, “PS1_e” hereinafter, right to and receiving traffic from said “SM_e”),

connecting the first pooling switch (“PS1_e”) *to a first physical module* (fig. 7 top half second [downward direction] “branch part”, “PM1_e” hereinafter, right to and receiving traffic from said “PM1_e”, and see “signals are branched by the branch part” recited [0130] lines 7-8) *that is connected to a protected egress link* (fig. 7 “sending interface 530” outputting traffic from “PM1_e”),

connecting the traffic through the first physical module (refer to fig. 7 and see traffic out of said “PM1_e”) *through a second pooling switch* (fig. 7 “multiplexing part 520”, “PS2_e” hereinafter, right to and receiving traffic from “PM1_e”) *to a second physical module* (fig. 7 “sending interface 540”, “PM2_e” hereinafter, right to and receiving traffic from “PS2_e”) *that is connected to an alternate egress link* (fig. 7 egress link out of “PM2_e”).

Claim 27, *connecting traffic to a service module* (fig. 7 “client interface 595”, “SM_i” hereinafter) *from a first pooling switch* (fig. 7 bottom half “restoring part”, “PS1_i” hereinafter, left and sending traffic to “SM_i”),

connecting the first pooling switch (“PS1_i”) *to a first physical module* (fig. 7 bottom half last [downward direction] “selector”, “PM1_i” hereinafter, left to and sending traffic to said “PS1_i”, and see “selectors each of which selects one signal from a plurality of signals” recited Abstract lines 10-11) *that is connected to a protected ingress link* (fig. 7 “receiving interface 550” inputting traffic to “PM1_i”),

connecting the traffic through a second physical module (fig. 7 bottom half "receiving interface 560", "PM2_i" hereinafter, passing through traffic) that is connected to an alternate ingress link (fig. 7 ingress link to said "PM2_i") through a pooling switch (fig. 7 "demultiplexing part 580", "PS2_i" hereinafter, right to and receiving through traffic from "PM2_i") to the first physical module (fig. 7 showing said "PS2_i" passing traffic to said "PM1_i").

Claim 28, *connecting traffic from a service module (fig. 7 "client interface 590", "SM_e" hereinafter) to a first pooling switch (fig. 7 top half "distributing part", "PS1_e" hereinafter, right to and receiving traffic from said "SM_e"),*

.connecting the first pooling switch ("PS1_e") to a first physical module (fig. 7 top half second [downward direction] "indicator providing part", "PM1_e" hereinafter, right to and receiving traffic from said "PM1_e"),

connecting the traffic through the first physical module through a second pooling switch (fig. 7 top half second [downward direction] "branch part", "PS2_e" hereinafter, right to and receiving traffic from said "PM1_e") to a second physical module (fig. 7 "multiplexing part 510", "PM2_e" hereinafter, right to and receiving traffic from said "PS2_e") that is connected to the protected egress link (fig. 7 egress link out of "sending interface 530", which is right to and receiving traffic from said "PS2_e"),

connecting the traffic through the first physical module ("PM1_e" above) through the second pooling switch ("PS2_e" above) to a third physical module (fig. 7 "multiplexing part 520", "PM3_e" hereinafter, right to and receiving traffic from "PS2_e")

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that is connected to an alternate egress link (fig. 7 egress link out of "sending interface 540").

Claim 31, *connecting traffic to a service module (fig. 7 "client interface 595", "SM_i" hereinafter) from a first pooling switch (fig. 7 bottom half "restoring part", "PS1_i" hereinafter, left of and pooling traffic to "SM_i"),*

connecting the first pooling switch ("PS1_i") to a first physical module (fig. 7 bottom half last [downward direction] "selector", "PM1_i" hereinafter, left of and passing through traffic to said "PS1_i"),

connecting the traffic through the first physical module ("PM1_i" above) through a second pooling switch (fig. 7 bottom half, the combination of "phase control part" and the last [downward direction] "elastic store memory", "PS2_i" hereinafter, left of and passing through traffic to "PM1_i") to a second physical module (fig. 7 "demultiplexing part 570", "PM2_i" hereinafter, left of and passing through traffic to "PS2_i") that is connected to a protected ingress link (fig. 7 "receiving interface 550" left of and passing ingress traffic to "PM2_i"),

connecting the traffic through a third physical module (fig. 7 bottom half "demultiplexing part 580", "PM3_i" hereinafter, left of and passing through traffic to "PS2_i") that is connected to an alternate ingress link (fig. 7 "receiving interface 560" left of and passing ingress traffic to "PM3_i") through the second pooling switch ("PS2_i" above) to the first physical module (fig. 7 showing said "PS2_i" passing traffic to said "PM1_i").

Claim 34, *a device for switching traffic* (see “a hitless switching system” recited Abstract line 1) *comprising:*

a first pooling switch (fig. 8 “switch part 810” and “multiplexing part 610”) *configured to be connected to a physical module* (fig. 8 “sending interface 620”),

a frame passing module (fig. 8 the top pair “indicator providing part” and “branch part”, “FPM” hereinafter, and noting “the distributing part includes:” recited [0047] line 2 “a part for inserting H4 byte multi-frame into each virtual concatenation signal” recited [0049], which frame as shown in fig. 8 is passed to said “FPM” and further to “switch part 810”) *connected to the first pooling switch* (fig. 8 depicting “FPM” connected to “switch part 810”),

a second pooling switch (fig. 8 “distributing part”) *connected to the frame passing module* (fig. 8 depicting “distributing part” connected to the “FPM”),

a service module (fig. 8 “client interface 660”) *connected to the second pooling switch* (fig. 8 depicting “client interface 660” connected to “distributing part”).

Regarding the feature of “*having a link layer framer*” [in the first physical module] for claims 1, 13, 26, 27, 28 and 31, and “*a link layer frame module*” connected to the first pooling switch for claim 34, Sutoh suggests such framer in the “distribution part” (refer to fig. 7 and see “the distributing part includes:” recited [0047] line 2 and “a part for inserting H4 byte multi-frame in to each virtual concatenation signal” recited [0049]).

Sutoh however does not disclose:

for claims 1, 13, 26, 27, 28 and 31, a first physical module “*having a link layer framer*” (“PM1_e” for claims 1 and 26 and “PM1_i” for claims 13 and 27);

for claim 34, *“a link layer frame module”* connected to the first pooling switch and a second pooling switch connected to *“the link layer frame module”*.

Simons discloses “a method and apparatus for supporting multiple redundancy schemes in a single network device” (Abstract lines 1-3) using “universal port cards (or ports)” (Abstract lines 14 and see also fig. 35A “universal port card” 554a-h and 558a-h in both sending and receiving sides) “where one or more of the ports are primary ports and one or more of the ports may be redundant ports” (col. 5 lines 8-10) comprising the following features:

Regarding claims 1, 13, 26, 27, 28 and 31, a first physical module (“PM1_e” for claims 1 and 26 and “PM1_i” for claims 13 and 27) *having a link layer framer*,

Regarding claim 34, *“a link layer frame module”* connected to the first pooling switch and a second pooling switch connected to *“the link layer frame module”*.

(refer to fig. 36A depicting “universal port card” with “framer 574a-n” and see “transceiver 572a converts the optical data into electrical signals that is sends to a SONET framer 574a” recited col. 46 lines 64-65 and further “The SONET framer organizes the data it receives from the transceiver into SONET frames. SONET framer 574a sends data over a telecommunications bus 578a to a serializer-deserializer (SERDES) 580a” recited col. 46 line 66 – col. 47 line 2)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Sutoh by adding the framer of Simons to Sutoh’s “branch part” [“PM1_e”], “selector” [“PM1_i”], and “FPM” in order to formulate a more robust mechanism that “provides network managers with maximum flexibility in

choosing redundancy schemes for their network devices” as pointed out by Simons (col. 2 lines 51-53) (Note that Sutoh has in fact already suggested such framer, as cited above, in the “distributing part”).

- **Regarding dependent claims**

Sutoh discloses the following features:

Claims 10 and 23, *wherein the pooling switch enables multiple logical streams to be included in one physical interface* (see “a receiving part for receiving virtual concatenation signals, wherein the virtual concatenation signals are obtained by **dividing an original signal into virtual concatenation signals**” recited [0054] lines 1-4).

Claims 12 and 25, *wherein pooling switch is a time division multiplexing switch* (fig. 7 depicting, for claim 12, “multiplexing part 520” and, for claim 25, “demultiplexing part 580”).

Claims 29 and 32, *wherein the first physical module (“PM1_e”/“PM1_i” for claims 29/32, which are discussed in claims 28/31 above) does not include a link interface module* (note that said “PM1_e”/“PM1_i” are connected to “PS1_e”/“PS1_i” on one end and “PS2_e”/“PS2_i” on the other with no direct linking to an “egress/ingress” link).

Sutoh does **not** but **Simons does** disclose the following features:

Claims 2/3 and 15/16, *wherein the first/second physical module contains an optical interface module* (refer to fig. 36A “port 571a...571n” and see “As one example, port 571a is connected to an ingress optical fiber 576a carrying an OC-48 SONET stream and an egress optical fiber 576a carrying an OC-48 SONET stream” recited col. 46 lines 59-62).

Claims 4/5 and 17/18, wherein the first/second physical module contains an *electrical link interface module* (refer to fig. 36A “SERDES 580a...580n” and see “Port 571a passes optical data from SONET stream on fiber 576a to transceiver 572a. Transceiver 572a converts the optical data into electrical signals that is sends to a SONET framer 574a.” recited col. 46 lines 62-65 and further “SONET framer 574a sends data over a telecommunications bus 578a to a serializer-deserializer (SERDES) 580a” recited col. 46 line 66 – col. 47 line 2, noting that said “SERDES 580a” interfaces with “cross connection card 562a” and thus obvious to one skilled in the art serves as *an electrical link interface module*).

Claims 6/7 and 19/20, wherein the first/second module contains a module that *places the traffic in proper form for a pooling switch* (refer to fig. 36A and see “a serializer-deserializer (SERDES) 580a that serializes the data into four sereial lines with twelve STS-1 time slots each and transmits the four serial lines to cross-connect card 562a” recited col. 47 lines 1-4).

Claims 11 and 24, wherein the *pooling switch is a packet switch* (refer to fig. 36A and see “The sonnet framer organizes the data it receives from the transceiver into SONET frames. SONET framer 574a sends data over a telecommunications bus 578a to a serializer-deserializer (SERDES) 580a that serializes the data ... and transmits the four serial lines to cross-connect card 562a” recited col. 46 line 66 – col. 47 line 4, noting that SONET frames comprise packets and thus it is obvious to one skilled in the art that cross-connect card 562a, equivalent to said *pooling switch*, will have to be a packet switch in order to be able to handle the SONET frames).

Claims 30 and 33, wherein 1:N protection is provided (see “The present invention provides a method and apparatus for supporting multiple redundancy schemes in a single network device. In one network device, various redundancy schemes are supported including 1:1, 1+1, 1:N” recited Abstract lines 1-4)

5. Claims 8, 9, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sutoh et al (US 2003/0,165,115, Sutoh hereinafter) in view of Simons et al (US 6,332,198, Simons hereinafter), as applied above in paragraph 4, and further in view of Sawey et al (US 6,195,330, Sawey hereinafter).

Sutoh and Simons described claimed limitations as discussed above for claims 1 and 13. Sutoh in view of Simons does not disclose the following features:

Claims 8/21, wherein the traffic through the protected egress link and a protecting egress/ingress link have a synchronization difference smaller than 50ms;

Claims 9/22, wherein the traffic through the protected egress/ingress link and a protecting egress/ingress link behave in a manner to the user as if there is no synchronization difference between the two traffic flows.

Sawey discloses a “method and system for hit-less switching” (col. 1 lines 1-2) with “The capability to hit-less switch between redundant paths, such as working channel 7 [fig. 2] and protect channel 9” (col. 4 lines 57-58) wherein “a second digital signal in which a second payload identical to the first payload, a second payload indicator marker and a second overhead are transported on a second channel” (col. 2 lines 51-54) comprising the following features:

Claims 8/21, wherein the traffic through the protected egress link and a protecting egress/ingress link have a synchronization difference smaller than 50ms;

Claims 9/22, wherein the traffic through the protected egress link and a protecting egress/ingress link behave in a manner to the user as if there is no synchronization difference between the two traffic flows.

(see "Payload indicator markers indicating the start of their corresponding payloads are sent to each elastic buffer every frame. At the elastic buffer outputs, the monitor circuit determines the **time difference** between the appearance of the two payload indicator markers, which corresponds to the difference in network delay between the two copies of the payload. The read counter for the **protect** traffic instantaneously **adjusts** for the amount of the delay between the two payload indicator markers" recited col. 3 lines 11-19. It is obvious to one skilled in the art that Sawey discloses a **full** synchronization between the traffic flows on working and the protect channel, and as such, *have a synchronization difference smaller than 50ms, and to the user as if there is no synchronization difference between the two traffic flows*)

It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the method/system of Sutoh by adding the synchronization method of Sawey to Sutoh in order to provide an easier synchronization that "provides the capability to perform a hit-less switch between two signals without having to first frame align the two signals and which is therefore simpler and less costly than present hit-less switching techniques" as pointed out by Sawey (col. 3 lines 41-44).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 2003/0117952 provides method of transmitting data with redundant structure wherein a SONET is applied to Ethernet LAN.

US 5,193,086 provides a network system having a line switching function with communication lines and backup lines.

US 6,574,477 teaches dynamic load balancing with active RCS on one AP and standby RCS on a second AP.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Lai whose telephone number is 571-272-9741. The examiner can normally be reached on M-F 7:30-5:00 EST, Off alternative Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on 571-272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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KWANG BIN YAO
SUPERVISORY PATENT EXAMINER

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A handwritten signature in black ink, appearing to be 'Kwong Bin Yao', written in a cursive style with a long horizontal stroke extending to the right.